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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,361	07/07/2003	Hirotsugu Takeuchi	4041J-000733	7893
27572	7590	12/08/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			ALI, MOHAMMAD M	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/614,361

Applicant(s)

TAKEUCHI, HIROTSUGU

Examiner

Mohammad Ali

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-17 is/are rejected.  
7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/10/04.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-10 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Newton (3,701,264). Newton discloses an ejector device M' for a refrigeration cycle that includes a radiator/condenser C' for radiating heat of refrigerant compressed by a compressor VC', and an evaporator E' for evaporating refrigerant after being decompressed, the ejector decompression device M' comprising a nozzle 22' having an inner wall defining a refrigerant passage 105, for decompressing an expanding refrigerant flowing from the radiator C' by converting pressure energy of refrigerant to speed energy of the refrigerant, the nozzle including a throat portion having a cross-sectional area that is smallest in the refrigerant passage of the nozzle 22', and an expansion portion in which the cross-sectional area is increased toward downstream in a refrigerant flow, a pressure increasing portion that is disposed to increase a pressure of refrigerant by converting the speed energy of refrigerant to the pressure energy of refrigerant while mixing refrigerant injected from the nozzle and refrigerant sucked from the evaporator, and a needle valve 104 disposed in the refrigerant passage 105 of the nozzle 22', wherein the needle valve and the inner wall of the nozzle are provided to have predetermined shapes so that refrigerant flowing into the nozzle 22' is decompressed to a gas-liquid two-phase state at upstream from the

throat portion in the refrigerant flow, a control means/actuator 101 for adjusting the position of needle valve 104 extending in an axial direction from the throat portion to the outlet of the nozzle 22. See Fig. 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newton in view of Sahoda et al., (6,706,438 B2). Newton discloses the invention substantially as claimed as stated above. However, Newton does not disclose a needle valve position beyond an end of the outlet of the nozzle/needle valve protrudes from the outlet of the nozzle, and first and second conical portion of the needle valve. Sahoda et al., teach the use of a needle valve 33 having first taper/conical portion 51 and a second taper/conical portion 52, the first taper/conical portion

extending beyond the outlet of nozzle 32 in an ejector system 30 for the purpose of controlling fluid supply. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the ejector device of Newton in view of Sahoda et al., such that a desired shaped needle valve could be provided in order to extend it beyond the nozzle outlet and position the two conical/taper portions at the specified place.

### ***Response to Arguments***

Applicant's arguments filed 11/17/04 have been fully considered but they are not persuasive. The Applicant argued, "Newton clearly defines the outlet as the end of the nozzle 22 (22') indicated at 30 (30'). Conical head 104 (needle valve) does not extend to the outlet of the nozzle and thus it is not able to adjust both the opening degree of the throat portion and the opening degree of the outlet of the nozzle as is now defined in amended Claims 1 and 7.

Thus, Applicant believes Claims 1 and 7, as amended, patentably distinguish over the art of record. Likewise, Claims 2-6 and 8-10, which ultimately depend from Claim 1 or Claim 7, are also believed to patentably distinguish over the art of record.

Reconsideration of the rejection is respectfully requested." The Examiner disagrees. The Examiner considers that the outlet of the nozzle 22' begins where the throat portion, the narrowest part of the nozzle ends. In Fig. 3 it is seen that the needle valve 103 clearly extends beyond the throat portion of the nozzle 22'. Therefore, the rejections are proper. Applicant's amendment necessitated the new ground(s) of

rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

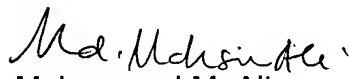
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is 703-308-5032. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Esquivel Denise can be reached on 703-308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mohammad M. Ali  
December 3, 2004

  
WILLIAM DOERRLER  
PATENT EXAMINER  
GROUP 840